

## PART 3: APPENDICES

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### 1. INTERNATIONAL CASE STUDIES

#### 1.1 *Canada – Consortium*<sup>75</sup>

Industry Canada is geared at creating a knowledge economy so that all Canadian citizens can ultimately create a better life for themselves. Industry Canada believes that its departmental policies and programs will ultimately:

- Provide more and better paying jobs for Canadians
- Support business growth through continued improvements in productivity and innovation performance
- Give consumers, businesses, and investors confidence that the market place is fair, efficient, and competitive

There are five strategic objectives that Industry Canada strives toward, namely: *innovation, connectedness, marketplace, investment, and trade.*

##### *Innovation*

To strengthen Canadian industry across the board there is a huge focus on skills development, research and development, and new technological innovation. In pursuing these avenues Industry Canada hopes to:

- Increase innovation as a critical success factor in all sectors
- Expand knowledge base especially in fields with good opportunities
- Accelerate commercialisation and adoption of innovation processes and products by Canadian organisations
- Increase development and application of eco-efficient practices and technologies in Canada.

##### *Connectedness*

Being connected is the foundation of what Industry Canada believes drives a knowledge economy and society. Speed is of the utmost importance when tracking information and using information effectively to create a competitive advantage. It is for this reason that Canada is thus trying to make them the most connected country around the globe. Therefore Industry Canada is trying to create:

- Connectivity that is affordable and accessible
- A world leading environment for electronic commerce
- Maximised digital content and applications
- Expanded delivery of government and private business services by using technology and innovation

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<sup>75</sup> Also see Industry Canada [<http://www.ic.gc.ca>].

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*Marketplace*

The market place in Canada must promote reliability and confidence whether Canadians are doing business locally or abroad. This is believed to be the cornerstone of a healthy competitive marketplace and of a dynamic economy.

Industry Canada hopes to:

- Create a responsive marketplace framework for business that is fair for consumers and investors alike
- Create a marketplace that operates in accordance with the framework statutes, regulations, policies, and procedures
- Most importantly create confidence in the marketplace

*Investment*

To stimulate Canada's economic growth investment and capital formation are critical factors that have to be monitored. In order to attract more investments there is an increase in R&D spending to that Canadians can get the skills they require to market themselves both locally and abroad. Industry Canada is thus trying:

- To improve the domestic and international investment climate
- Brand Canada as the logical investment location
- Increase attraction and retention of multinational investment
- Increase investment into the SMME sector

*Trade*

Canada prides itself on being a world leader in trade with other countries. Industry Canada is committed to helping businesses become export ready by giving them the means to access information on foreign markets, providing easy access to programs, services and regulatory information; and participating wholly in international trade missions. In doing so they hope to:

- Secure market access and improve on it, while maintaining it
- Prepare business for export and help them develop their capabilities
- Develop international markets they are interested in
- Create a more cohesive approach to international trade development

Industry Canada is acting as a major power horse for putting Canada on the map when it comes to business in industry, both locally and abroad. They are committed to bolstering their own economy and the skills of their labour force so as to create an aura of dominance, confidence, and self-assurance.

**1.2 Egypt – Smart Village**

The Smart Village in Egypt is a technology park aimed at hi-tech businesses and offers state of the art infrastructure to its members. The park offers superior internet connections, technological and administrative services that help make Smart Village a thriving hive of IT business practice. Smart Village takes the idea of a techno-park into the next century. The technology and leading edge design that is reflected in the park creates an environment of innovation and knowledge sharing. The Smart Village is 1,336,000 square meters of lush rolling lawns and only 10% of its land is covered with buildings. This 10% set aside for development paves the way for 57 office plots giving it the capacity to host some 20 000 employees.

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Included in this business park are Conference and Exhibition Centres as well as Government Offices and child care facilities. The aim of this park is to create a holistic environment for the development of ICT companies within Egypt, removing all barriers for new businesses.

The Smart Village are being developed in downtown Cairo, centrally placed from existing business areas as well as conveniently located near the Cairo International Airport. This development is a Public Private Partnership between the Egyptian Government and Industry. The Egyptian Government has created special legislations for this development.

It was through the drive of the Ministry of Communications and Information Technology that the idea of the Smart Village was formed. Although the government initiated the process the Ministry developed a master strategy plan for ICTs in Egypt through weekly consultations with industry. The telecommunications act was expanded to include the development of so-called Smart Villages of which Smart Village – Cairo will be a first. The new headquarters of the Ministry of Communications and Information Technology will be moved to this office park.

The park opened in 2002 and continues to attract International and Egyptian ICT companies. The park is still under construction with the first phase to be completed in 2003 and the final phase in 2007.

Part of the services included in becoming a tenant within the Smart Village is the following:

**Business Entry Services:**

- Feasibility Study Consulting
- Starting up Companies
- Expanding Business Companies

**Setting up an office and business within the Smart villages:**

- To incorporate a company
- To get work permits for foreign employees
- To register a foreign company's branch
- Recruiting local employment for foreign companies
- Guarantees and exemptions of law No. 8 for inland investment companies

**The Smart Portal offers a variety of information and services:**

- File/document directories , with upload and download
- Syndicated content (news ,etc) including filtering and personalization
- Streaming media
- Search and indexing
- E-mail
- Bulletin boards
- HTML and XML page display (format her sites)
- User directories

- Discussion boards
- Messaging interfaces
- Suggestion box
- Web directory
- Web search
- Newsgroups and mailing lists

*For further information see the following:*

Villages Administration Address, 55A, Al Nakheel Street, Mohandessin, Cairo, Egypt.

Telephone: +202 7617830 (10 Lines)

Fax: +202 7617828

E-mail: [sv@smart-villages.com](mailto:sv@smart-villages.com)

Website: <http://www.smart-villages.com>

### **1.3 India – Outsourcing**

Outsourcing to India has become a major part of doing business in the IT world. India is rich in skilful and low cost programmers and approximately two thirds of Forbes' Fortune 500 companies utilise these skills as part of their businesses.<sup>76</sup> The main reason that this has become such a success over the last few years is that it allows senior management of large company's time to concentrate on what really matters. Outsourcing programming to India cuts the cost of application development, maintenance, and labour. Without these issues to concern them management can thus concentrate on strategy and making money.

Not many people would agree with this business practice because it does cost a lot of people their jobs in the short term, but what if you look at it from India's point of view. How did they manage to create a rich and bustling service that ultimately has tremendous advantages to them?

India offers what every senior manager on the globe is looking for, low cost and high quality products and services, and India offers just that. In South Africa labour costs are still cheap compared to countries such as the USA and Canada. If South Africans had the same amount of skill, we too would become an outsourcing paradise. It is thus important to keep developing mechanisms and agencies, such as incubators in an effort to create such a market. The influx of foreign investment in this regard would create major opportunities for programmers in this country. In India, one of the main advantages they feel from outsourcing is the ability of their workers to gain exposure to world best practices and of course access to the worlds most advanced IT systems. This leads to a major growth in skill and knowledge base of the people and allows them to create sustainable opportunities for themselves using proven best practice.

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<sup>76</sup> See Overby 2003 [<http://www.cio.com/archive/060103/outsourcing.htm>] for further information on this strategy within India.

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India is a popular destination for Business Process Outsourcing (BPO) because of two key factors: *location attractiveness* and *people attractiveness*.

*Location Attractiveness*

The government of India has taking measurable steps in making outsourcing to India a lucrative business decision. Government has done the following to aid this:<sup>77</sup>

- Significant investment in infrastructure with the establishment of Technology Parks like Hitec City, Hyderabad, Tata-Singapore Consortium, Bangalore, Tidel Park, and Chennai.
- Liberalisation of telecom sector allowing private players
- Competition amongst state governments to attract BPO investments
- A more conducive regulatory environment, in which the industry is made eligible for several incentives including a 10-year tax holiday, rebates in customs duties, and liberal investment policies.

*People Attractiveness*

India's most important source in the future is its multi-skilled, low cost, English speaking population. The average cost of a call centre worker in India is only 15% of their American counterpart. There are on average 2.1 million graduates every year and 300 000 post graduate students from non-engineering schools. These graduates for the most part either can't find jobs or pursue their studies and careers in other countries. It is estimated that by 2008 India will have a staggering 17 million graduates available to the BPO industry (across sectors).

***Job Creation due to Outsourcing***

Indian IT software and services industry<sup>78</sup> is projected to provide employment to 650,000 IT professionals by March, 2003. It is estimated that these knowledge workers, almost 205,000 are working in the IT software and services export industry; nearly 160,000 in IT enabled services; 25,000 in the domestic software market and over 260,000 in user organisations. The huge influx of jobs coming to India because of their outsourcing practice is massive. The potential for growth is exponential, and as the educational stats show above, there will surely not be a shortage of skilled labour to handle the influx.

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<sup>77</sup> See Department of Information Technology, Ministry of Communications & Information Technology (India) [<http://www.mit.gov.in>]

<sup>78</sup> <http://pib.nic.in/archieve/ppinti/achieve2003/english/22.html>

## 1.4 *Producing ICT Businesses for the Future (PICT)*<sup>79</sup>

PICT Businesses for the Future is an agency that focuses on development of the ICT sector within Scotland (UK). The organisation is a partnership between Tertiary institutions, National Government (UK), Regional Government (Scotland), International Government (EU) and private ICT Companies. The organisation has three focus areas:

- Research – identifying market orientated research into the ICT sector. The research is not only focused on developing technologies but also aims to gain an understanding of how the market develops and to understand the needs of the market. It is very focussed on ICT SMMEs.
- Business Partnering & Product development – forming partnerships with SMMEs to develop new business and technologies. These businesses are placed within a hive development called The Hothouse.
- Policy-making – creates policy and strategies to influence government and private sector. These policies are focussed on ICT SMME development. This activity is in collaboration with Private Sector, Academia and Government.

### *The Hothouse*<sup>80</sup>

This incubation and hive organisation aim to bring together SMMEs in a creative and collaborative environment. Through shared services the barriers for SMMEs are removed and enable entrepreneurs to focus on developing their products.

The services that are provided to tenants are:

- A fully serviced desk (Internet Access, e-mail)
- Front desk receptionist
- Telephone and message taking service
- Utilities
- Access to meeting area and coffee area
- Parking

The Projects that are run by PICT are:

- Netmark Management – community project that skill people with disabilities in IT
- Light Pen to Voice – developing a hand held device to convert text into voice for Dyslexia individuals.
- Technology Watch – research current and future applications that will have an impact on rural SMMEs.
- MY-HQ – online office environment for information management and administration.
- Structure for Commercialisation of Rural Innovation (SCRI) – collaborative project between academia, research institutions, government and private companies to develop innovative ideas.

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<sup>79</sup> For more information see PICT webpage [<http://www.pict.org.uk>].

<sup>80</sup> The structure of the Hothouse and PICT in general corresponds with that of CITI. See Part 3 Point 2.1.

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- RuBies – project to establish support networks between SMMEs in rural areas that will enhance communication, collaboration and sharing of best practices.

*Youth Development*

PICT realises the problems relating to youth employment and encourages the youth to develop their ICT ideas into viable businesses and products. Part of the initiative is the Youth Challenge. This competition is based on the following:

- Collaboration on projects through development teams
- Development of business processes through submission of business plans
- Development of new IT products
- Financial support for the R&D of the products
- Marketing and viability testing of products

The winning team will receive access to an Incubator in Ireland to learn advanced ICT skills and to improve their product.

Through this competition the youth learns business and development skills as well as to create sustainable businesses.

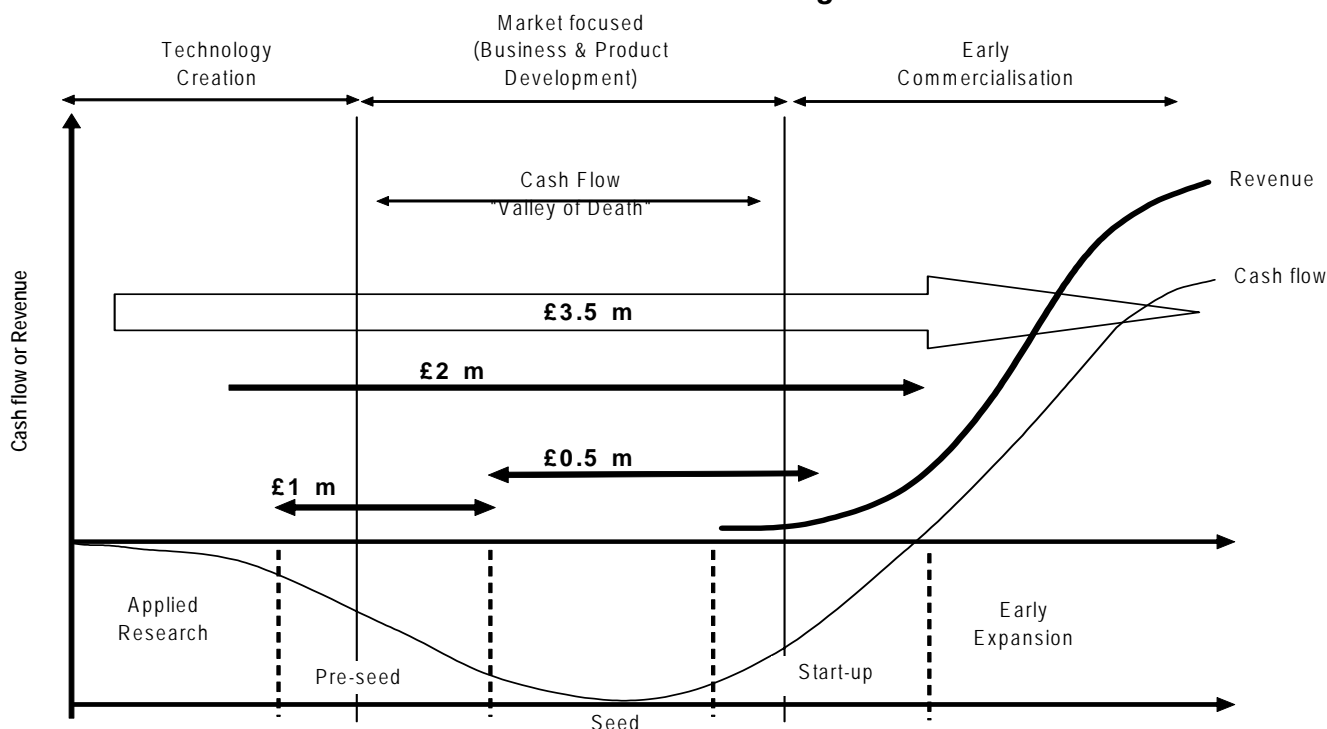
***Job Creation***

Job creation is based on the development and support of SMMEs. Due to the rural environment of Scotland many of the population lives in isolation of the market driven environments of urban areas. Through PICT the aim is to create environments for SMMEs that will enable them to develop and access information as well as to be placed in business environments with most of the barriers of "normal" business processes removed. Jobs are created through collaborative projects where business does not focus on individuals but rather on teamwork. More persons are made economically active and are also up-skilled in the process.

### 1.5 United Kingdom – The West Midlands Incubator

In the West Midlands the incubators run by Warwick Science Park – TeamStart high growth pre-incubation start up programmes which are run under the West Midlands banner and a seed fund and investment, the funding of the programme was structured as follows.

**Pre-Incubation and Incubation Program Chart**



According to the figures provided by the West Midlands incubation program about £700,000 would be employed to fund the incubation program’s training, business advice and technological support.

**a. Incubator Program Funding Model - 3 year period**

	3-year	1-year	3-year	1-year
Program funding	£2.0 m	£0.7 m	R 24 m	R 8 m
Pre-seed fund	£1.0 m	£0.3 m	R 12 m	R 4 m
Investment per company	<u>£0.5 m</u>	<u>£0.2 m</u>	<u>R 6 m</u>	<u>R 2 m</u>
Funding requirement	£3.5 m	£1.2 m	R 42 m	R 14 m

**b. Incubator Program Funding Model - per business**

	3-year	1-year	3-year	1-year
Program funding	£20,000	£6,667	R 240,000	R 80,000
Pre-seed fund	£10,000	£3,333	R 120,000	R 40,000
Investment per company	<u>£5,000</u>	<u>£1,667</u>	<u>R 60,000</u>	<u>R 20,000</u>
	£35,000	£11,667	R 420,000	R 140,000

**Notes:**

1. Currency translation based R/£ rate of 12
2. Per businesses calculation based on 100 companies

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This includes financial support component that amounts to about 40% of total funding requirements. About 70% of it would be utilised in pre-seed activity, while the rest would go to operating cash flow for the business entity.

This would cater for about 250 formative and early stage businesses over three years. Warwick's four incubators would only accommodate about 100 businesses. The amount of £3.5m implies a simply allocation of £14,000 or R168,000 per business.

According to D Rowe, employing professional services resources is unlikely to be less than £250,000 and could be over £750,000 per annum. In order words no less R3m and could be well over R9m.

Many entrepreneurial initiatives find it difficult to make the leap from public sector financing to private funding for their innovations. The ventures fail to obtain funding because there are significant gaps between what the ventures are offering to investors and what the potential investors are seeking.

Early stage publicly funded technology investments find it difficult to obtain funding from private investors.

It is extremely difficult to conduct high-risk early stage research to satisfy the public sector, while simultaneously prioritising market and product development to obtain private sector financing. Private sector investors pursue return on investments and profits for companies in which they invest. These two groups have a vague understanding of what drives each other.

Particularly striking is the need for entrepreneurial firms to evolve from a technology focus to a market and customer focus, which is primarily due to the requirement that the private sector make a profit. The public sector does not have this requirement.

In the cash flow valley of death entrepreneurs face dangerous convergence of high cash demands and low ability to raise it. Focusing first on the cash flow curve, note the three broad stages of development where investment is needed to keep the venture solvent.

1. The technology creation stage where the public sector focuses its investment
2. The cash flow valley of death where there is typically a dearth of funding, and
3. The early commercialisation stage – typically the earliest point at which private sector investors like to invest. Venture capitalists typically prefer to finance the venture when solid initial sales have been established – just before the sharp upturn in cash flow that is associated with rapid market acceptance, adoption and sales.

The drop-off of public sector investment occurs at the same time that the investment needs of the venture are actually growing. When large cash requirements are considered, there is also limited ability to service debt financing. Hence, the entrepreneurial venture must often turn to equity finance for at least part of his resources.

While IT companies can be profitable, there is still a high-risk perception because of:

1. Information asymmetries resulting from an entrepreneur knowing more about his technology and his company's prospects than investors or strategic partners
2. Lack of real products
3. The markets for these technologies are often immature and need to be developed

4. Multiple and costly prototypes are often necessary for initial markets

Building a bridge between public and private sector financiers

1. Reduce information gaps between the two sectors by providing appropriate access to data, knowledge and insights critical to making sound investments.
2. Fostering an accelerated shift from a technology focus to a market focus
3. Exploring and developing co-investment partnerships with the private sector

### **1.6 United Nations Development Program (UNDP)<sup>81</sup>**

The United Nations Development Program (UNDP) believes that a multi-faceted approach should be taken when addressing ICT and its role in development. Multiple stakeholders and multiple approach angles will identify and address the variety of gaps in the market. The urgent demands and needs for developing countries to establish sound and useful ICT policies are ever increasing. The UNDP believes that for them play an appropriate role in guiding policy development they would require a lot of stakeholder cooperation. To support this UNDP established what they call the Thematic Trust Fund (TTF) for ICT development. The fund will help the UNDP respond quicker to the demands and requests of countries that need assistance. The fund will go towards developing programmes and initiative that fall within the Global Cooperation Framework (GCF). The UNDP offers the following country level services in ICT for development:

- E-strategies
- E-initiatives
- E-governance
- E-grants
- National awareness, promotion, and stakeholder campaigns

Through these services countries can access funds to support SMME programmes as well as research funding for R&D in ICTs. These funds are invaluable for developing businesses and to create jobs. It can also be used to support mechanisms and support programmes that focus on ICTs.

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<sup>81</sup> See also UNDP website [<http://www.undp.org>] and the UNDP Thematic Trust Fund – ICT for development [<http://www.undp.org>].

## 2. SOUTH AFRICAN INITIATIVES

### 2.1 *Cape IT Initiative (CITI)*

The Cape IT Initiative (CITI) functions as a Development Agency for the ICT sector of the Western Cape. This not for profit organisation was formed in 1998 through a collaborative partnership between the Western Cape Provincial Government (driven by the Department of Economic Affairs), **the dti**, local industry and the City of Cape Town Metropolitan Council. The aim of this agency is to develop the local industry into the so-called IT Gateway.

CITI has 4 focus areas:

- Cluster Development – events, strategic networking opportunities, fundraising
- IT Business Development – incubation and development support
- IT Skills Development – skills training and development strategies
- IT Research & Policy – review of the ICT sector, identifying new trends and developing proper development strategies

#### *Bandwidth Barn*

As part of the IT Business development strategy CITI has developed a Public-Private Partnership to form the Bandwidth Barn. This project functions as an incubator as well as a hive development. Entrepreneurs can gain access to this hive development through submitting a proposal on their product and services they want to develop. This proposal does not have to be a proper business strategy but rather must focus on what the company want to develop.<sup>82</sup> The requirement of any Entrepreneur to gain access is an idea and basic start-up capital. Services that are provided to an entrepreneur at the beginning are the following:<sup>83</sup>

- Small cubicle
- Internet Access
- Telephone & Fax facility
- General Receptionist
- Meeting rooms

The aim is to create an environment that will remove the basic barriers (connectivity, office space, costs and administration) so that the new entrepreneur can focus on developing the business. Different IT companies are clustered within this office space to develop a Hive. The hives enables the tenants to interact with each other, share information, and collaborate on projects and to co-operate on developing products. For a new entrepreneur it means direct access to additional services that would not have been accessible through the normal means.

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<sup>82</sup> In the beginning of the project proper Business Strategies were needed but this was discarded as requirement due to the exclusion it create for PDI entrepreneurs with no background in Business development.

<sup>83</sup> The cost for all these services is minimal and would be equal to R1500 per month (=June 2004).

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Permanent staff of the Bandwidth Barn provides mentoring and help develop the businesses. They also provide marketing strategies and opportunities for the tenants to meet with investors and network with other industry players.

The entrepreneurs also get access to information relating to Venture Capital but the focus of the staff of the Bandwidth Barn is not to promote the use of Venture Capital and rather to provide strategic help that will enable the new business to grow.

*Strategic approach*

CITI see themselves as an Agency that will enable the promotion of the use of technology within business environments, to remove barriers that inhibits SMMEs to develop, to understand the Western Cape ICT sector and identify the key trends within this sector and to co-ordinate ICT development actions. The focus is on development and not necessarily the creation of additional jobs. The view is that jobs can only be created if sustainable growth is reached and SMMEs can develop and sustain themselves. Growth can be accomplished within the ICT sector through the following means:

- Sharing of Information regarding developments within the region as well as in the rest of South Africa and the international arena.
- Co-operation between members of the industry in projects focussing on each company's strength rather than the one and all.
- Providing proper guidance and mentoring to new entrepreneurs and SMMEs
- Removing basic barriers of business development

*Job creation*

CITI has no formal job creation strategy but sees SMMEs as the way to generate new jobs. CITI exists since 1998 but has re-aligned themselves in the past years (2002-2004) to focus on development of sustainable businesses. This is incorporated into a 5-year development strategy that mainly aims to enhance economic growth. Job creation is a natural evolutionary development from the growth that occurs.

Currently a closer partnership between the provincial government and CITI has been formed through the Centre for eInnovation.<sup>84</sup> The focus will be on not only the ICT sector *per se* but on the society as a whole – the creation of smart citizens. This means that ICTs are seen as catalyst for new business and the creation of jobs.<sup>85</sup>

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<sup>84</sup> Also see Centre for eInnovation at the Provincial Administration Western Cape (PAWC); [http://www.capecgateway.gov.za/eng/your\\_gov/14311](http://www.capecgateway.gov.za/eng/your_gov/14311).

<sup>85</sup> For further information on the smart citizen view see PAWC White Paper: Preparing the Western Cape for the Knowledge Economy of the 21st Century 2001.

## 2.2 Innovation Hub

### Background

#### *Maxum Incubators*

The Innovation Hub funded by Blue IQ provides an enabling environment for high-tech start-ups for the ICT, biosciences, electronics and advanced materials and manufacturing sectors. The innovation hub follows a three-stage incubation process made up of *pre-incubation*, *incubation*, and *associate member* status which is ultimately incubation graduation.

*Pre-Incubation* is a six-month support program to equip up and coming entrepreneurs (especially those from historically disadvantaged communities) to create and operate a sustainable business venture. This phase is aimed at creating a sample or prototype and to test its market viability. *Pre-incubation* is not however, a prerequisite to enter the incubation program, after an entrepreneur has gone through pre incubation, it can then be decided whether full incubation should ensue, or if the entrepreneur wants to take their product to the market on a “solo” mission and develop independently.

The pre-incubation phase requires the following for entry to be considered<sup>86</sup>:

- Submission of a concept document describing the business proposition
- A demonstration of commitment to the venture
- A business idea that demonstrates technological innovation in one of the focus areas of The Innovation Hub (ICT, biosciences, electronics, and advanced materials and manufacturing)
- Evidence that you can support yourself financially whilst in the program.

The *incubation* phase is generally a 1 -3 year program that is designed to assist the new venture to establish them and grow rapidly. A coach assists the management team to maintain a 360-degree view of the company’s operations and its environment. Graduation from this phase means that the entrepreneur has created a sustainable and feasible business venture. This phase requires the following entry criteria:

- A business plan demonstrating:
  1. The feasibility of the business venture
  2. A fit within the focus areas of The Hub
  3. A potential for development of unique technology or business models
  4. A high growth potential
  5. Potential to generate foreign capital
- A demonstration of the ability to finance the venture
- Relocation to the premises of the Innovation Hub in Pretoria
- Commitment to a lease period of one year with a flexible termination option

After graduation from the incubation phase the venture becomes what is called an *Associate* of the Hub and the venture is sustainable and in operation. The advantage of becoming an associate is:

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<sup>86</sup> See <http://www.theinnovationhub.com>

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- Access to up-market meeting rooms
- Being part of an established brand such as The Innovation Hub
- Market visibility by means of corporate advertising
- Being part of an entrepreneurial, innovative community

There have been huge successes that have graduated from The Hub and a 79% success rate has been measured from start-ups going through the program. Prime examples of successful incubators cum independent business ventures are:

- Artificial Intelligence Products (Pty) Ltd
- Blue Square Technologies (Pty) Ltd
- Electrosoft CC
- eSay Programming CC
- Vas-Tech (Pty) Ltd
- World Wide Objects

*The Tenants*

There are a continuous number of tenants at The Hub and the current tenants going through the incubation process at The Hub consists of:

*Expertron*

The Expertron Group (Pty) Ltd produce information and communication security solutions with specific focus on the convergence of mobile (GSM) and conventional data (the Internet)

*Mohwiti*

Mohwiti Technologies is a software development company that designs software for schools and educational facilities in an open source platform. Through residing at The Hub, Mohwiti is fast on its way to ensuring not only a piece of the market pie, but a rather large chunk of it.

*Naledi 3D Factory*

The Naledi3D Factory (Pty) Ltd develops Virtual Reality (VR) models for use in training, education, data visualisation, industrial, environmental marketing as well as property and architectural simulations

*Spline Technologies*

Spline Technologies manufactures products for the security market

*TCI-Thoreb (Pty) Ltd*

TCI-Thoreb provides computerized electrical systems that deliver real time information for the transport industry

The Innovation Hub is sponsored in large by Blue IQ and Jill Sawyer the Director of the Maxum incubator resides as the Chairperson of SABTIA for 2004.

**Innovation Hub and Job Creation**

The Innovation Hub funded by Blue IQ provides an enabling environment for high-tech start-ups for the ICT, biosciences, electronics and advanced materials and manufacturing sectors. The innovation hub follows a three-stage incubation process made up of *pre-incubation*, *incubation*, and *associate member* status which is ultimately incubation graduation. Apart from being an agency for development it is

also on a secondary level a large creator of jobs just to maintain the Incubators themselves. The opportunity for low level computer skilled people ( Personal Assistants, bookkeepers, accountants etc) to grow themselves into an ICT related position is very good. With the technological incubation process gearing new ventures for life in the market, these workers benefit from massive amounts of knowledge at their fingertips. To work at the Innovation hub in any of the jobs specified above, a general knowledge of the technologies, and initiatives must be fostered. Already just by working in the environment workers are being skilled and ultimately they may even come up with their own initiatives. The same type of scenario can be painted by other incubator initiatives such as Softstart, Raizcorp, and so forth. Just by being an agent for development, without really trying, high level and low level jobs are being created that are most importantly sustainable.

### **2.3 The South African ICT Cluster Development**

The South Africa has developed three main ICT clusters that are major investment hubs and conscious development initiatives. The clusters are Western Cape, Gauteng, and KwaZulu-Natal.<sup>87</sup>

#### **Western Cape**

The Western Cape cluster is relatively stable thanks to the efforts of the Cape Information Technology Initiative (CITI). CITI is a non-profit, independent development agency that supports the development of the ICT cluster in the Western Cape. This initiative is supported by the Provincial and Local Government as well as the Western Cape development agency (WESGRO).<sup>88</sup> The approach taken within Western Cape is to integrate and co-ordinate all the various actions taken within the province to develop the ICT sector. In 2004 a new ICT Centre for Government Service Delivery was established. The Centre for elnnovation is tasked with developing an Information Society (=smart citizens) within Western Cape. This centre supports CITI and helps develop further strategies for the development of the ICT sector.<sup>89</sup>

CITI is run on a business basis and answers to all it's paid up members and stakeholders. CITI believes that the Cape can be an IT gateway for Africa and their main focus is on:<sup>90</sup>

- Cluster Development
- Events and Research
- Boosting bandwidth access
- Promoting IT skills
- Facilitating the establishment of new IT enterprises and products

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<sup>87</sup> The KwaZulu-Natal cluster is relative new to the ICT sector and has been initiated through the creation of the Durban Institute of Technology and the Local Government structure of eThekweni Metropole.

<sup>88</sup> For more information see <http://www.citi.org.za>

<sup>89</sup> See also the Cape Gateway established by this Centre <http://www.capegateway.gov.za/>. For more on the Centre for elnnovation in the Western Cape government see [http://www.capegateway.gov.za/eng/your\\_gov/14311](http://www.capegateway.gov.za/eng/your_gov/14311).

<sup>90</sup> SAITIS: ICT Cluster Development Funding and Management Mechanisms. 2002.

- CITI has a business start-up support service, which makes expert consultants available to share advice and knowledge with entrepreneurs.

CITI has achieved a tremendous buy in from the surrounding communities and has shown value to investors and members alike. CITI is a prime example of cluster development in motion and the current successes of CITI are helping generate funds and investment.

### **Gauteng**

In Gauteng there is a mature and bustling ICT sector yet it is very different to that of the Cape cluster. Gauteng for the most part hosts the big multi-national companies which ultimately change the landscape of the ICT market in the Province. With the national and international role that Gauteng plays in the sector much of the private companies time is spent on managing these initiatives and business deals and unfortunately there are many local initiatives being sidelined because of it. The major weakness in Gauteng however, is the lack of collaboration and cooperation by companies on many of the projects. The reason for this is that many of these companies are large enough to take on projects by themselves and find no need to collaborate with other companies. The only real collaboration takes place when work for government is done. The idea of Gauteng being a gateway to international business changes the focus of doing business to an international scale, and provincial initiatives are largely ignored. There are three main areas in Gauteng that constitute major IT hubs, namely: Sunninghill/Rivonia, Centurion/Pretoria, and Midrand. Communication between these three hubs and in turn a larger focus on provincial initiatives is a major challenge to the cluster development agency.

Blue IQ, the Gauteng Provincial Government initiative is one of the agencies helping drive ICT cluster development in the province. BlueIQ are the major financial investors of The Innovation Hub, which houses the technology incubator discussed later in the report. Another major player in the development of the ICT cluster in Gauteng is Savant, the vanguard of South African technology.<sup>91</sup> The main focus of Savant is not to directly stimulate local and economic growth. Through the marketing of South African skills and knowledge in the sector abroad, Savant hopes that this will in turn spur the innovation and growth of the local sector to international standards.

### **KwaZulu-Natal**

The recent development of an ICT cluster within KwaZulu-Natal is a drive of this province to create a further node for the development of ICTs and to expand on the current economic activity of the province. A major driver behind this development is the Durban Institute of Technology and eThekweni Metropolitan Municipality. These two organisations have formed a partnership in developing and implementing ICTs within the systems of the Metropole and to develop SME support programmes.

At the Durban Institute of Technology<sup>92</sup> the Centre for Skills Development and Technology Transfer (CSDTT) focus on developing learnerships and skills especially within the ICT environment. This initiative is supported by Department of Labour, The National Research Foundation, GTZ (German Technical Co-operation agency), the eThekweni Unicity. The centre is not only working in close partnership with eThekweni

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<sup>91</sup> See also <http://www.blueiq.co.za/> and <http://www.theinnovationhub.com/>

<sup>92</sup> For further information see <http://www.dit.ac.za/index.php>

but provides services and training to the Services SETA and Isett Seta. Further partnerships are formed with client ICT companies to provide them with ICT skills training.

eThekwini Metropole is also in the process of developing Technology Parks and Incubator Centres to develop new ICT companies. Situated in CSDTT is a support programme for technology transfer within SMMEs. The aim of the programme is develop proper ICT SMMEs that could contribute to the economic expansion within KwaZulu-Natal.

A further development is the Technology Hub which is a mechanism to develop the ICT sector. It not only functions as an incubator environment but aims to develop skills, new technologies and to remove barriers for ICT SMMEs. This project is endorsed by the Local Economic Development Plan of eThekwini, KwaZulu-Natal Department of Labour as well as **the dti**. Through the Hub entrepreneurs will get access to skills training, venture capital as well as business management support. It is the aim of this project to streamline and interface with local, provincial and national initiatives to create a dynamic ICT cluster within KwaZulu-Natal.<sup>93</sup>

The general trends within the South African Cluster environment can be summarised as follows:

- The regional developments focus on the ICT sector within the region rather than on the ICT sector as a whole.
- The clusters are supported by Government as well as the industry.
- There are currently "champions" driving the cluster developments. In KwaZulu-Natal the cluster development is driven by a recently established centre. In Gauteng and Western Cape organisations acting as agencies are spearheading the development.

## **2.4 Mineworkers Development Agency (MDA)**

The Mineworkers Development Agency (MDA) was formed in 1987 and it constitutes the development and job creation wing of the National Union of Mineworkers (NUM). In 1997 the MDA became a section 21 company geared at creating opportunities in communities where mine worker downscaling is rife. MDA's mission is:<sup>94</sup>

- To be a leading organization in promoting local economic and human development in rural and urban mining communities
- To promote sustainable livelihoods through self employment, enterprise development, skills development, access to job creation opportunities and job creation
- To unleash the entrepreneurial spirit of people in the effected communities
- To impact on human development by delivering quality services through our network of sustainable development centres and other outlets and agencies
- To interface effectively with other key role players, stakeholders and appropriate institutions

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<sup>93</sup> For further information on the phase of the project see <http://www.csdt.dit.ac.za/techhub.htm>.

<sup>94</sup> See Case Study Mineworkers Development Agency 2003.

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Through Development Centres (DC's), which are financially self-sustainable limited companies the development vehicle is driven. The DC is market driven with the only grant-funded activity being for business training and counselling. There are 7 DC's throughout Lesotho and South Africa located in the labour sending areas to mines. These services are not only just for mine labourers but also aims at improving and empowering the community at large. The activities of the DC's fall into several business units namely:

- Social Plan and Project Management
- Training and Counselling
- Institutional Support
- Ethaleni and Business Supply Stores
- Marketing and Product Development

An impact assessment was conducted in February 2000 and its main aim was to identify<sup>95</sup>:

- The extent of enterprise activity, which followed MDA's training.
- Whether, and to what extent, that enterprise activity had contributed to improvements in clients' living standards and/or increased household assets.
- What were the constraints, which had impacted on clients' capacity to start enterprise activity following training, or subsequently limited business growth?

The assessment found that on average 70% of MDA trainees in the program used the skills they learnt and the knowledge they gained to initiate an income generating activity. 77% of those who used what they had learnt were still economically involved in their activities 1 year later. This statistic is benchmarked with the international standard for empowerment through training for this sector. The study did also show however that although there was a sustainable improvement this impact did not reflect too largely on the living standards of these individuals.

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<sup>95</sup> See Case Study Mineworkers Development Agency 2003

## **2.5 The ICT SMME Development Programme<sup>96</sup>**

### **INTRODUCTION**

The South Africa ICT SME faces growth and development challenges that are not adequately addressed. Limited resources, a lack of strategic focus and creativity are but a few challenges hindering such growth and development.

Due to the unique nature of this sector and it not receiving sufficient support and nurturing from stakeholders, the development of a clear strategy to promote and strengthen the support of historically disadvantaged entrepreneurs has been slow and ineffective. Whilst there have been many initiatives that have been undertaken to support the SME sector, measurable results thereof that can inform effective support interventions are not easily available.

The ICT SME Support Programme is an effort through public and private sector partnerships to introduce effective and measurable support instruments for the SME ICT sector. The ICT SME Support Programme has been designed specifically to provide ICT SME companies with access to markets and opportunities whilst also enhancing their capabilities and sustainability. The program is a two year pilot program and below is a comprehensive outline of the program and activities

### **BACKGROUND**

There are various challenges that the ICT SMEs face in a highly competitive market. These, in our view, can be summarized as follows:

- Access to market
- Lack of capital and skilled resources
- Capital intensity poses major barriers to market entry.
- Access to specialised, licensed and niche products – since they can only participate as second tier and third tier distributor
- Over reliance on government business
- Inability to keep up with technological innovation and advancement and the fast evolving business environment, business requirements are changing at rapid pace.

In addition, SMEs do not have sufficient capacity, national distribution and the desired competitive advantage to compete with established vendors. Against this background, the following process will be followed to implement this programme to achieve the below described objectives for both the beneficiaries and partners.

### **APPROACH**

Forge Ahead and Ntsika, in partnership with other stakeholders such as **the dti**, DoC, HP, EDS, the Isett Seta, Innovation Hub and British Trade and Investment; have combined a number of ICT SME support instruments and initiatives under one umbrella. Very often due to insufficient information and resources, government alone is not able to competitively address the challenges of the SME sector.

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<sup>96</sup> This programme was run by ForgeAhead and ended in the beginning of 2003. Its aim was to development of SMMEs. This was a pilot programme to develop best practice ideas that could be used by government.

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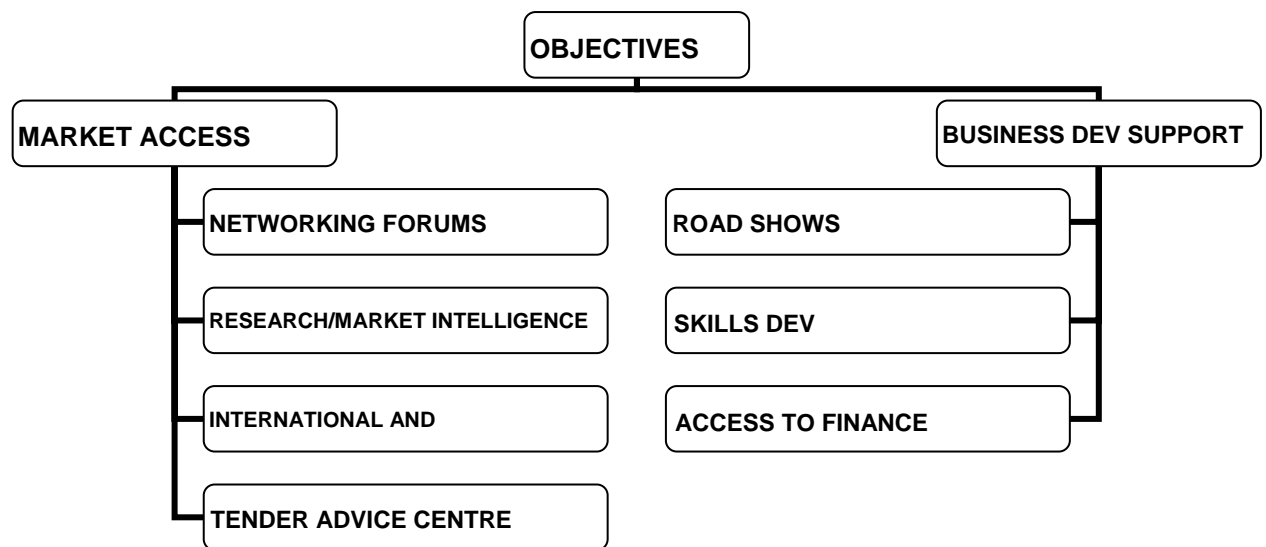
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In so doing, we anticipate maximum benefits for participating stakeholders and thereby minimize duplication.

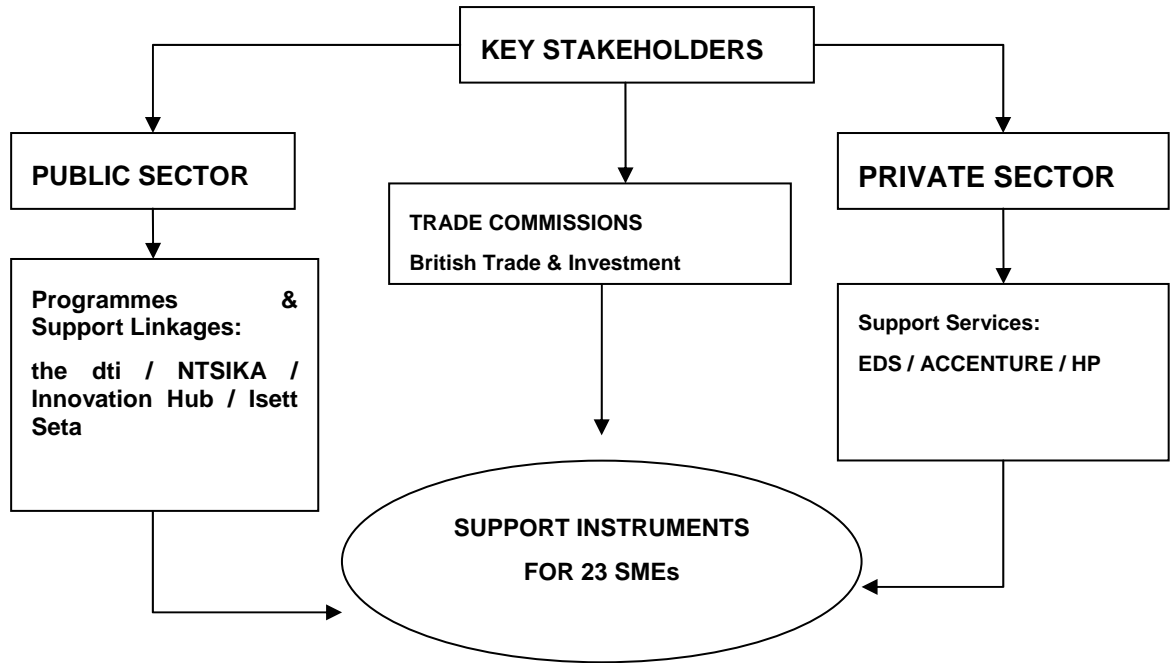
The overall *goal* of this programme is:

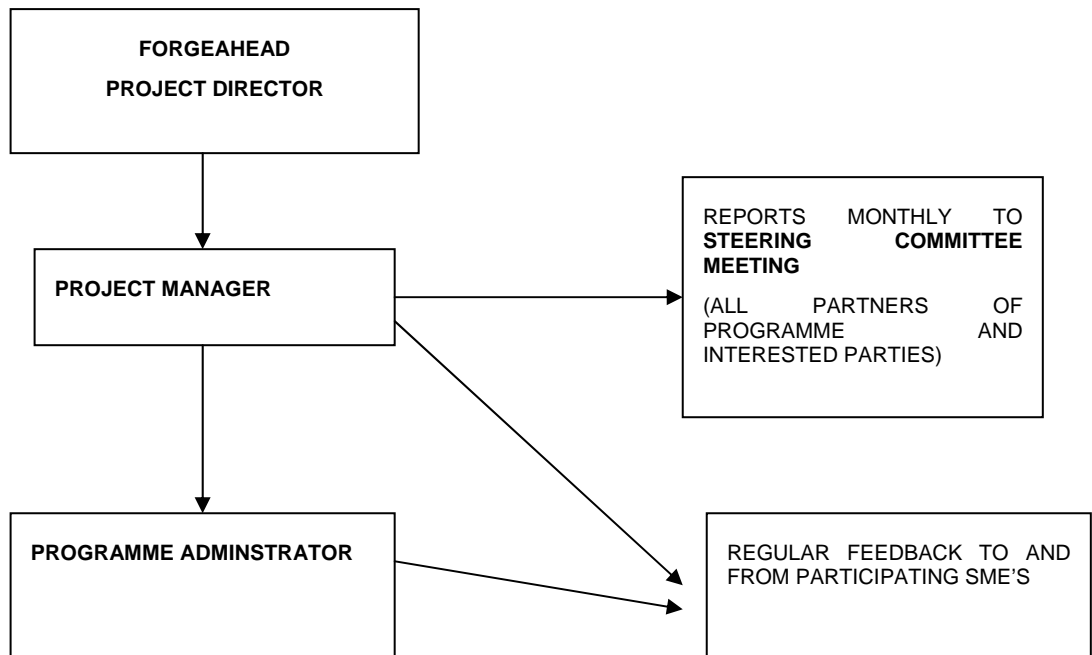
*To co-ordinate and facilitate access to relevant SME support initiatives to improve the status of and ensure the profitability of ICT SMEs.*

**OBJECTIVES OF THE PROGRAMME**



**STAKEHOLDERS OF THE PROGRAMME**



**MANAGEMENT OF THE ICT SME SUPPORT PROGRAMME****BRIEF SUMMARY OF INTERVENTIONS TO ACHIEVE PROJECT OBJECTIVES**

- Access to markets
- Direct marketing to corporate IT users
- Hlanganani Networking Forum
- Active engagement of partners to facilitate access to business opportunities by
- Means of outsourcing, co-tendering, etc.
- Tender Advice Centre:
- Ntsika will link us to a Tradeworld and has requested us to wait for implementation according to their schedule
- Request for link to SITA's procurement opportunities database
- Pursuing relations with Transnet B2B
- Business development support
- Training and skills development

Isett Seta has appointed skills development facilitators to assist ICT SMEs (at no cost to the SMEs) with compliance with the Skills Development Act. The Seta has also appointed a training service provider to offer courses to SMEs on general management, finance, marketing, operations and administration Business mentorship in specified areas to be facilitated by Accenture Business mentorship also available through Innovation Hub HP to provide assistance to some SMEs to have access to HP training

**Access to finance**

The approach to facilitating access to finance has been to serve as a referral point for SMEs. During the last 6 months we have had many enquiries from participating SMEs about financing, the greatest need being bridging finance and finance for expansion.

For easy access to information, we will post have decided to include as much information about the various financing and funding sources that exist for SMEs on the website.

**Road shows**

Road shows are conducted to publicise the SME support programme in all provinces of the country, thereby creating a better national profile of the programme and to share information with ICT SMEs

To provide access to at least R75 million of contracts for ICT SMEs within the two-year pilot duration of this programme.

Marketing to corporate IT users

- *Success*
- *Challenges*
- *Strategies*
- *See programme management plan*

**Partners' comments**

*Our role should be primarily that of matchmaking and of providing business support. Issues of skills and capacity are very important in deciding to partner with an SME.*

*Some accreditation process is required to convince both partners and corporate IT users of the value of SMEs.*

*SMEs should be equipped to do their own marketing (this should be part of our business development support).*

*Access to markets can be by means of matchmaking (e.g. UK partnership programme, networking forums).*

*To ensure that all partners of the programme and initiatives are contextualised to achieve maximum benefit for both beneficiaries and partners.*

*It has become evident that not all partners participate and contribute to the programme as is expected. Some partners have not yet signed the agreement. Upon investigation, I learnt that partners need to have their roles clarified:*

*Does responsibility end with paying over partnership contribution and attending steering committee meetings?*

*If not, partners wish to have any other contributions / interventions from their side clarified and quantified. In this regard, great emphasis has been placed on definition of SME need in order to find match or 'fit' with partners' skills transfer initiatives.*

*As far as access to business opportunities are concerned, partners have indicated that they cannot commit to a promise of x amount of business to the SMEs, but provided that SMEs meet all their (their partners') requirements, will consider them when opportunities arise.*

*We need to understand the partners' reasons for participating. For example: If it is only to enjoy publicity benefits, we have to ensure that more media exposure happens. I have been talking to partners to clarify these issues.*

*To incorporate and combine the efforts of various stakeholders to maximise the collective capital and intellectual resources. This objective has not been clearly enough defined for me to comment on the interventions to achieve it.*

## **2.6 Recent developments within the ICT sector**

In April of this year President Thabo Mbeki, in his State of the Nation Address, mentioned that the cost of telecommunications and the related services needs to be lowered. On the 2<sup>nd</sup> September 2004, Dr Matsepe-Casaburri, Minister of Communications announced policies that would address these issues<sup>97</sup>. The announcement paves the way to creating a more competitive ICT environment, improved access to infrastructure and services, and creating a variety of choices provided by the sector to meet economical and social needs of society.

The announcements by the Minister make provisions for a number of policy interventions designed to further develop the sector. The following areas were covered in the Ministers announcement:

- Self-provision and greater choice for mobile operators
- Provision of public pay phones
- Provision of voice by value added service providers
- Choice in the provision of value added network services (VANS)
- Cession of telecommunications services by VANS
- Optimising the use of private telecommunications network facilities
- Preparing our youth for the knowledge economy

These amendments to current Telecommunications Act No 103 of 1996 have major implications for the sector and industry in general. These implications are discussed under the following headings.

### ***Self-Provision and Greater Choice for Mobile Operators***

According to law<sup>98</sup>, cellular operators are not allowed to set up and use their own infrastructure or the infrastructure of anyone other than Telkom and/or a public switched telecommunications service provider. In essence this means the mobile cellular operators have to be happy with the tariffs charged by Telkom for services and connection.

The new policy however makes the provision for cellular operators to use any fixed lines that are available either by a public switched telecommunication service or if they so chose Telkom. The implications of this policy relate mostly to the costs relating to cellular communication. The policy aims at creating a market whereby competitiveness is bountiful and prices are market related not monopoly forced.

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<sup>97</sup> Policy announcement by the Minister of Communications, Dr Ivy Matsepe-Casaburri on 2 September 2004.

<sup>98</sup> South African Telecommunications Act No 103 of 1996

***Provision of Public Pay Phones***

Public pay phone services are services whereby individuals or entities purchase pay phones from manufacturers and lease lines or purchase airtime and resell to the public. This promotes SMME development and job creation as well as addressing connectivity related issues in line with the development of the second economy. The policy thus provides that anyone can apply for a license to operate a public pay phone system anywhere within South Africa's borders.

***Provision of Voice by Value Added Service Providers***

This policy could possibly be one of the most anticipated policy developments in the telecommunications sector to date. There is no longer a discrepancy between the transmission of voice, video, or data. It is therefore believed that prohibiting the transmission of voice by VANS is longer required. The implications of this policy are massive to all those people and companies that have interested in using Voice over Internet Protocol (VoIP) for pleasure or business. VoIP has been an issue in the frontline of debate across the stakeholders of the ICT sector. Although it is no secret that many people have already utilised this service, the legalities never allowed them to strategically place VoIP in strategies and plans for the future. Being able to utilise this type of service can and will change the strategic direction of many companies across sectors. For example, teleconferencing and e-Health initiatives can now openly occur without any fear of prosecution.

With this advancement on the horizon South Africa can benefit by the creation of jobs and SMME's that specialise in communication software development and ultimately a greater and even faster access to anywhere across the globe. This basically allows for even further freedoms of access to information and the generation of more information and knowledge for any person that chooses to use the service.

***Choice in the Provision of VANS***

VANS can only be sourced currently through Telkom but provision has been made by the ministry that allows the use VANS by anyone from anyone including Telkom and the Second Network Operator. The implications of this basically boil down to being able to use VANS from service providers in other countries such as America Online, or Skype.<sup>99</sup> Although this does not necessarily impact job creation per se, (other than the provision of private VANS development) it does create a non-defined boundary of resource pools. This forms part of educating and empowering the people of South Africa to make informed decisions with access and services from around the globe.

***Cession of Telecommunications Services by VANS***

VANS are currently restricted from trading telecommunications facilities in anyway, the policy provides that VANS can now openly trade, sell, or sublet control or dispose of telecommunications facilities used for the provision of VANS. The implications of this on the sector relates to competitiveness and the theory behind the free market system. Service Providers can now pool resources and create partnerships with

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<sup>99</sup> Skype is a VoIP program/service that allows the user to contact and connect remotely to anyone/ or any machine across the globe. The user merely needs to download the software and register as a user. By doing so the individual has access to a number of resources and services around the globe.

other service providers from around the globe allowing them the opportunity to innovate and create best-practice scenarios.

### ***Optimising the Use of Private Telecommunications Network Facilities***

Until now the private telecommunications facilities held by entities in South Africa could not be sold, or rented to anyone else, creating under-utilisation of some of these networks where other networks are generally over utilised. The provision has been made that these entities can openly barter and sell these services. The impact of this on the sector creates more choices and competitiveness and allows the establishment of privately operated satellite companies for example, to sell there services in the open market.

### ***Preparing our Youth for the Knowledge Economy***

The idea of trying to incorporate ICTs into school systems and generate access to historically disadvantaged individuals is a fantastic idea that previously was not feasible due to the costs involved of having such facilities. The ministry has thus made provisions that public schools and public further education institutions will be entitled to a 50% discount on telecommunications calls to an ISP, or any fees resulting from telecommunications tariffs charged by ISP for transmitting or receiving data by this medium.

All of the above allowances are expected to be effective as of the 1<sup>st</sup> February 2005. The only amendment to take effect sooner relates to the education sector and this policy will take effect as of the 18<sup>th</sup> of January 2005. There are still further developments that need to be announced by Minister Matsepe-Casaburri but these relate to the SNO, under- serviced areas licenses, the Convergence Bill, and The ICT BEE Charter. In closing the Minister related her thoughts around not focussing on the inequality of the past, but rather in looking forward and gearing South Africa to developing a world class ICT sector.

The initiatives taken by the Ministry of Communications to liberate and free up the sector ultimately eliminates one of the biggest wedges driven between South Africa and the rest of the world. In order to realise the dream of bridging the digital divide these policies needed to be amended. With the amendments brought forward the divide is still there, but now the law encourages bridging whereas in the past it prohibited it.

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## **4. GLOSSARY**

AIICT – Advanced Institute for Information Communication Technologies  
BEE – Black Economic Empowerment  
BPO – Business Process Outsourcing  
CIO – Chief Information Officer  
CITI – Cape Information Technology Initiative  
COSATU – Congress of South African Trade Unions  
CSDTT – Centre for Skills Development and Technology Transfer  
CSIR – Council for Scientific and Industrial Research  
DC – Development Centres  
DIT – Durban Institute of Technology  
DoC – Department of Communications  
DoE – Department of Education  
DoL – Department of Labour  
DPSA – Department of Public Service Administration  
DST – Department of Science & Technology  
ETQA – Education and Training Quality Assurers  
EU – European Union  
FRIDGE – Fund for Research in Industrial Development Growth and Equity  
GCF – Global Cooperation Framework  
GIS – Geographic Information Systems  
GTZ – German Technical Co-operation agency  
HSRC – Human Science Research Council  
ICASA – Independent Communications Authority of South Africa  
ICT – Information & Communication Technology  
ICT4D – Information & Communication Technologies for Development  
ICTE - Information & Communication Technologies and Electronics  
IDC – Industrial Development Corporation  
Isett Seta – Information Systems, Electronics and Telecommunication Technologies Sector Education and Training Authority  
ISSA – Institute for Satellite & Software Applications  
IT – Information Technology  
LED – Local Economic Development  
LINK – Learning Information Networking Knowledge  
MDA – Mineworkers Development Agency

NBIA – National Business Incubation Association  
NEDLAC – National Economic Development and Labour Council  
Nepad – New Partnership for Africa's Development  
NGO – Non-Governmental Organisation  
NICTC – National Information Communication Technologies Council  
NQF – National Qualifications Fund  
NRF – National Research Foundation  
NUM – National Union of Mineworkers  
PAWC – Provincial Administration Western Cape  
PDI – Previously Disadvantaged Individual  
PICT – Producing ICT Businesses for the Future  
PNC on ISAD – Presidential National Commission on Information Society and Development  
R&D – Research & Development  
RPL – Recognition of Prior Learning  
SABTIA – South African Business Technology Incubator Association  
SADC – Southern Africa Development Community  
SAITIS – South African Information Technology Industry Strategy  
SCRI – Structure for Commercialisation of Rural Innovation  
SETA – Sector Education & Training Authority  
SITA – State Information Technology Agency  
SME – Small, Medium Enterprises  
SMMEs – Small, Micro and Medium Enterprises  
SSP – Sector Skills Plan  
**the dti** – The Department of Trade & Industry  
THRIP – Technology and Human Resources for Industry Programme  
TISA – Trade & Investment South Africa  
TNC – Trans-National Corporation  
TTF – Thematic Trust Fund  
UK – United Kingdom  
UN – United Nations  
UNESCO – United Nations Educational, Scientific and Cultural Organisation  
USA – United States of America  
WESGRO – Western Cape Development Agency  
WITS – University of Witwatersrand  
WSIS – World Summit on the Information Society

WSP – Work Skills Plan

YIIP – Youth Internship Incentive Programme

YIP – Youth Internship Programme

CSBP – Centre for Small Business Promotion

BRAIN – Business Referral and Information Network

FRAIN – Franchise Advice and Information Network

Namac – National Coordinating Office for manufacturing Advisory Centres

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